

CLAIMS:

- [1] An adsorbent comprising a plurality of internal peripheral walls (12) formed of a porous and adsorbing material such that each of these walls defines therein and longitudinally thereof a fine cylindrical fluid passage (11), wherein the peripheral walls (12) are consolidated together to form a rigid mass such that a plurality of the fluid passages (11) are arranged close to and in parallel with each other in every direction, vertical, horizontal and oblique.
- [2] An adsorbent as defined in claim 1, wherein the porous and adsorbing material forming the peripheral walls (12) is a sintered mixture of a carbonaceous material powder such as charcoal, bamboo charcoal, animal charcoal or the like and an inorganic material powder such as cement, waterproof mortar, kaolin, clay or the like.
- [3] An adsorbent as defined in claim 1, wherein the porous and adsorbing material forming the peripheral walls (12) is a sintered residue of a mixture of a carbonaceous material powder such as charcoal, bamboo charcoal, animal charcoal or the like and an inorganic material powder such as cement, waterproof mortar, kaolin, clay or the like, such that the carbonaceous material powder is burnt and exhausted thoroughly.
- [4] An adsorbent as defined in claim 1, wherein the porous and adsorbing material forming the peripheral walls (12) is a sintered inorganic material powder such as cement, waterproof mortar, kaolin, clay or the like.

[5] A method of making an adsorbent comprising the steps of:

preparing a mold (3) to be attached to a distal end of a nozzle (2n) in an extruder (2), such that a cylindrical wall (34) surrounds a base plate (33) held therein and a detour (35) for a raw material forming the adsorbent is defined around the base plate, and a plurality of thin and elongate pins (31) each of the same cross section as that of each of fine cylindrical fluid passages (11) present in the adsorbent 1 are fixed upright on the base plate (33) in such a state that minute clearances 32 intervene each between the adjacent pins (31);

preparing as the raw material a fluidic mixture (13) that may either be composed of a carbonaceous material powder and an inorganic material powder, or composed of an inorganic material powder and a binder kneaded and blended therewith using water;

then continuously forcing the fluidic mixture as the raw material into the clearances (32) between the adjacent pins (31) so as to form a material flow, by directing it away the extruder (2) and then into the detour (35) formed for the raw material in the mold (3);

consequently keeping the material flow to provide an uncured product (14) near and outside an exit of the mold (3) in such a state that the uncured product has a plurality of fluid passages (11) each defined through an internal peripheral wall (12) due to continuous spaces which the pins (31) have been occupying; and

finally finishing the uncured product (14) to give the adsorbent (1), either by merely drying or by successively drying and sintering the uncured product.

- [6] An apparatus for making an adsorbent comprising:
- a hopper (2h) for storing therein and feeding therefrom a raw material for forming the adsorbent;
 - an extruder (2) having a nozzle (2n);
 - a mold (3) constructed such that a cylindrical wall (34) surrounds a base plate (33) held therein and a detour (35) for the raw material is defined around the base plate and a plurality of thin and elongate pins (31) each of the same cross section as that of each of fine cylindrical fluid passages (11) present in the adsorbent (1) are fixed upright on the base plate (33) in such a state that minute clearances (32) intervene each between the adjacent pins (31), with the mold (3) being attached to a distal end region of the nozzle (2n); and
 - facilities (4) for drying an uncured product (14) to solidify or for drying and subsequently sintering the uncured product being discharged from the extruder (3) and having internal peripheral walls (12) and the fluid passages (11).